

CLAIMS

What is claimed is:

1. A computer-assisted method for identifying potential mimetics of erythropoietin, using a programmed computer comprising a processor, a data storage system, an input device, and an output device, comprising the steps of:
 - (a) inputting into the programmed computer through said input device data comprising the three-dimensional coordinates of a subset of the atoms in the peptide GGTYSCHFGPLTWVCKPQGG when said peptide is co-crystallized with a portion of the erythropoietin receptor comprising amino acids 1 to 225 of said receptor, thereby generating a criteria data set;
 - (b) comparing, using said processor, said criteria data set to a computer database of chemical structures stored in said computer data storage system;
 - (c) selecting from said database, using computer methods, chemical structures having a portion that is structurally similar to said criteria data set;
 - (d) outputting to said output device the selected chemical structures having a portion similar to said criteria data set.

2. A computer-assisted method for identifying potential mimetics of erythropoietin, using a programmed computer comprising a processor, a data storage system, an input device, and an output device, comprising the steps of:

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- (a) inputting into the programmed computer through said input device data comprising the three-dimensional coordinates of a subset of the atoms in the peptide GGTYSCHFGPLTWVCKPQGG when said peptide is co-crystallized with a portion of the erythropoietin receptor comprising amino acids 1 to 225 of said receptor, thereby generating a criteria data set;

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- (b) constructing, using computer methods, a model of a chemical structure having a portion that is structurally similar to said criteria data set;

- (c) outputting to said output device the constructed model.

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3. A compound having a chemical structure selected using the method of claim 1, said compound being an EPO mimetic.

4. The compound of claim 3 wherein said compound is not a peptide.

5. The compound of claim 3 wherein said compound is a peptide.

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6. The compound of claims 5 wherein said peptide has 15 or fewer amino acids.